

MENONVILLEA ROLLINSII (BRASSICACEAE),  
A NEW SHRUBBY SPECIES FROM CHILEIHSAN A. AL-SHEHBAB<sup>1</sup> AND CLODOMIRO MARTICORENA<sup>2</sup>

*Menonvillea rollinsii*, a new species described from northern Chile, is unique in the genus because of its shrubby habit and the development of cork in older stems.

*Menonvillea* DC. is a genus of thirty species distributed primarily in the drier portions of northern and central Chile and the adjacent provinces of Argentina. The range of the genus extends southward into Patagonia, and of the eight species that grow there, only *M. nordenskjöldii* (Dusén) Rollins reaches as far south as Prov. Santa Cruz, Argentina, and Región Magallanes y Antártica Chilena (Boelcke & Romanczuk, 1984). Seventeen species are restricted to Chile and eight to Argentina, while five grow in both countries (Rollins, 1955).

Most species of *Menonvillea* are perennials with either an unbranched caudex or a deep, fleshy or woody, much-branched, rhizomelike caudex. About eight species are annuals, and two others, *M. linearis* DC. and *M. pinnatifida* Barneoud, are annuals that sometimes perennate under favorable conditions. From the underground caudex, all of the perennial species annually produce new herbaceous stems that bear flowers and fruits and then die at the end of the growing season. None of the previously recognized species has woody aerial stems, but *M. rollinsii*, described below, is unusual in the genus in being a shrublet with woody stems and well-developed cork.

It gives us great pleasure to name the new species in honor of Professor Reed C. Rollins, former director of the Gray Herbarium of Harvard University, in recognition of his outstanding revision of *Menonvillea* (Rollins, 1955), in which he described nine new species and proposed new combinations for 12 others.

***Menonvillea rollinsii*** Al-Shehbaz & Marticorena, sp. nov.                      FIGURE 1.

Fruticulus 15–20 cm altus, ad basin 4–6 mm in diametro; folia succulenta, lineari-subulata, scabra, 4–10 mm longa, 0.8–1.2 mm lata; sepala oblonga, scabra, 2–2.3 mm longa; petala oblonga, alba, 2–2.5 mm longa, marginibus crispis; pedicelli fructiferi recti, divaricati, 4–5 mm longi; fructus glaber, val-

<sup>1</sup>Arnold Arboretum, Harvard University, 22 Divinity Avenue, Cambridge, Massachusetts 02138, U. S. A.

<sup>2</sup>Departamento de Botánica, Universidad de Concepción, Casilla 2407, Concepción, Chile.

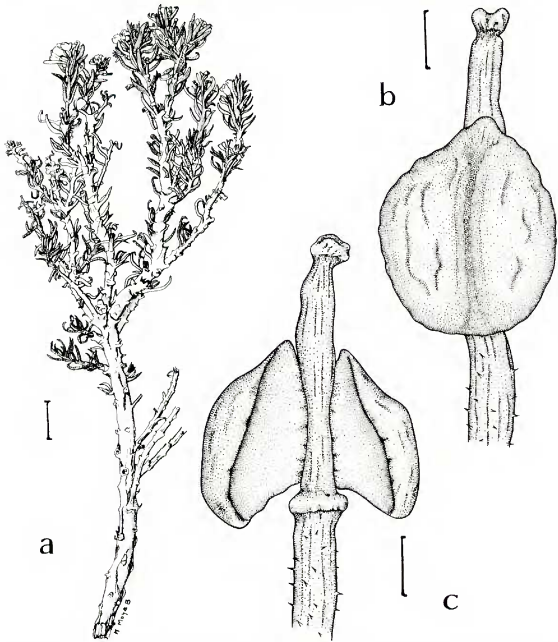


FIGURE 1. *Menonvillea rollinsii* (holotype): a, plant; b, fruit, front view; c, fruit, lateral view. Scale bars = 1 cm (a), 1 mm (b, c).

vibus late ovatis et anguste alatis, 2–3 mm longis; stylus 1–1.5 mm longis; semina ignota.

Shrublet 15–20 cm high; sparsely and minutely scabrous almost throughout with trichomes 0.05–0.1 mm long. Old stems straw colored, 4–6 mm in diameter at base. Leaves sessile, fleshy, subulate-linear, scabrous, 4–10 mm long, 0.8–1.2 mm wide, entire, straight or incurved. Inflorescences terminal, few-flowered, ebracteate racemes. Sepals caducous, oblong, 2–2.3 mm long, ca. 1 mm wide, scabrous, scarios at margin. Petals white, oblong, 2–2.5 mm long,

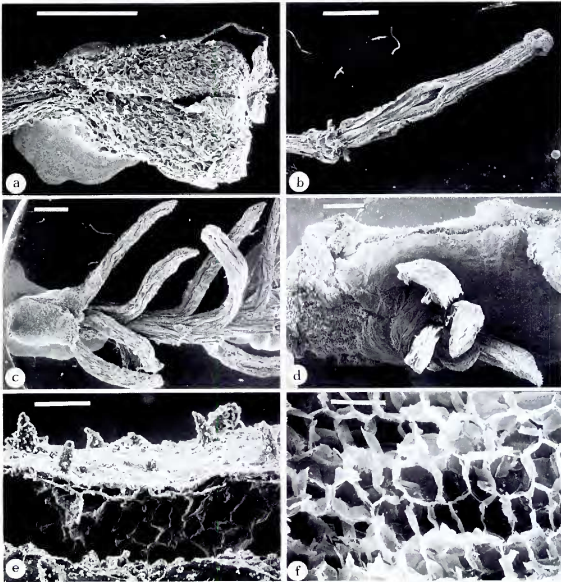


FIGURE 2. Scanning electron micrographs of *Menonvillea rollinsii*: a, flower bud; b, replum; c, leafy branch; d, portion of old stem; e, closeup of crack on old stem, showing trichomes, epidermis, and cork; f, cork. Scale bars = 1 mm (a-d), 0.1 mm (e, f).

ca. 0.8 mm wide, not clawed, uniform in width throughout, crisped at margin. Stamens 6, slightly tetradynamous; filaments erect, ca. 1.8 mm long; anthers oblong, 1-1.1 mm long. Median nectar glands solitary, toothlike; lateral glands ringlike. Fruiting pedicels straight, divaricate, 4-5 mm long. Fruits glabrous, narrowly 4-winged; valves broadly ovate, 2-3 mm long, 1.2-2.2 mm wide, inconspicuously veined on the back, triangular in cross section, each with narrow marginal wing 0.15-0.3 mm wide; style thick, 1-1.5 mm long; stigma capitate, 2-lobed. Seeds not seen.

TYPE. Chile, Región II [Antofagasta], camino de Chuquicamata a Conchi, 2700 m alt., 5 April 1961, *Ricardi, Marticorena, & Matthei* 445 (holotype, CONC; fragment, GH).

*Menonvillea rollinsii* is unique in the genus because of its shrubby habit and its older stems with well-developed cork (see FIGURE 2e, f). It is also easily distinguished from the other species of *Menonvillea* in having short (4–10 mm), sessile, subulate-linear leaves (see FIGURE 2c) and in being scabrous almost throughout (the petals, stamens, and fruits are glabrous) with minute, persistent trichomes only 0.05 to 0.1 mm long (see FIGURE 2e). The species is isolated in the genus and has no known close relatives.

*Menonvillea rollinsii* grows in open, very dry habitats that have an average annual rainfall of only ca. 9 mm. It is associated with plants such as *Adesmia atacamensis* Philippi, *Argyria tomentosa* Philippi, *Cristaria* Cav. (two species), *Cryptantha linearis* (Colla) Greene, *C. parviflora* (Philippi) Reiche, *Philippiamra pachyphylla* Philippi, *P. fastigiata* Philippi, *Solanum sitiens* I. M. Johnston, *Tetragonia trigona* Philippi, and *Trichocline caulescens* Philippi.

The shrubby habit in the Brassicaceae has evolved independently many times, as is evidenced by its occurrence in unrelated genera of various tribes (Al-Shehbaz, 1984). Apparently, woodiness also evolved independently in *Menonvillea* and in its nearest relative, *Cremolobus* DC., an Andean genus of seven species, of which four are woody and three are herbaceous annuals (Khanna & Rollins, 1965).

#### ACKNOWLEDGMENTS

We are most grateful to Donald H. Pfister for obtaining funds from the Harvard University Herbaria that supported the SEM portion of this research. We are thankful to Elizabeth A. Shaw for checking the Latin diagnosis, to Neil A. Harriman for his critical review of the manuscript, to Elizabeth B. Schmidt and Stephen A. Spongberg for their editorial advice, to Trisha Rice for the SEM work, to Barbara Nimblett for typing the manuscript, and to N. Moya B. for the illustration.

#### LITERATURE CITED

- AL-SHEHBAZ, I. A. 1984. The tribes of Cruciferae (Brassicaceae) in the southeastern United States. *J. Arnold Arbor.* 65: 343–373.
- BOELCKE, O., & M. C. ROMANCZUK. 1984. Cruciferae. *Fl. Patagonica* 4A: 373–544.
- KHANNA, K. R., & R. C. ROLLINS. 1965. A taxonomic revision of *Cremolobus* (Cruciferae). *Contr. Gray Herb.* 195: 135–157.
- ROLLINS, R. C. 1955. A revisionary study of the genus *Menonvillea* (Cruciferae). *Contr. Gray Herb.* 177: 3–57.